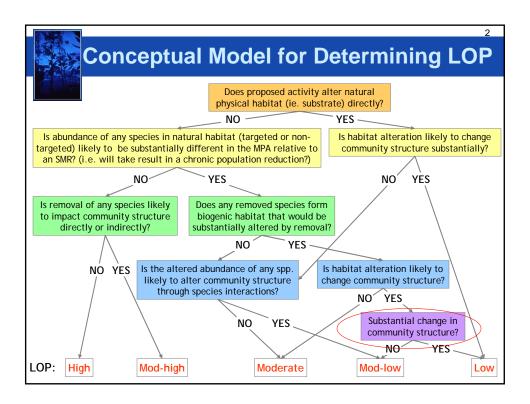
#### **Marine Life Protection Act Initiative**



## Levels of Protection for the MLPA North Coast Study Region

Presentation to the MLPA Master Plan Science Advisory Team February 11, 2010 • Webinar and Teleconference

Karina Nielsen, Member • MLPA Master Plan Science Advisory Team





**Assumptions Used in LOP Designations** 

# In applying the levels of protection (LOP) conceptual model, the SAT makes three important assumptions:

- Any extractive activity can occur locally to maximum extent allowable under current state and federal regulations
- For comparison purposes, an unharvested system is a state marine reserve successful in eliminating fishing and other extractive uses within the reserve
- Proposed activity is occurring in isolation from other activities (i.e. without cumulative effects of multiple allowed activities); this assumption based upon limitations in SAT's ability to assess cumulative impacts of multiple activities, not a belief that cumulative impacts do not occur

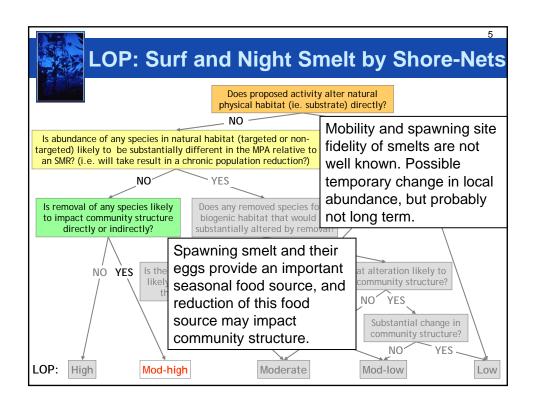
Water To				
	l evels	of Pro	otection	– Noi
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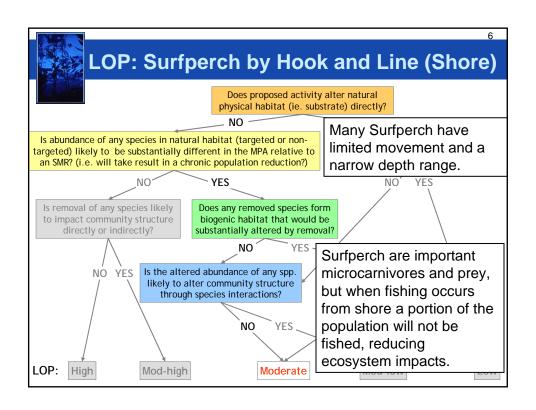
Level of **MPA Activities Associated with this Protection Level** Protection **Types** Very high SMR **SMCA** Salmon (H&L or troll in waters >50m depth); coastal pelagic finfish (H&L, High **SMP** Mod-high **SMCA Dungeness crab** (trap, hoop-net, diving); **salmon** (troll in water <50m depth); **SMP** surf and night smelts (dip net, a-frame net, cast net Moderate **SMCA** dip net); redtail and other surfperch (H&L from shore); California halibut (H&L); coonstripe shrimp and spot prawn (trap); clams (intertidal hand harvest); turf-forming and foliose algae<sup>2</sup> (intertidal hand Mod-low **SMCA** Pacific halibut (H&L); lingcod, cabezon, and rockfishes, and greenlings (H&L, spearfishing, trap); red abalone (free-diving); urchin (diving), surfperch Low **SMCA** Rock scallop (diving); mussels (hand harvest); bull kelp (hand harvest); ghost SMP shrimp (hand harvest); sea palm (intertidal hand harvest); canopy-forming

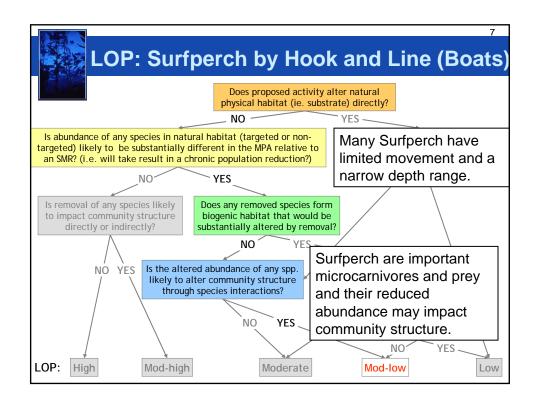
1 The grouping "coastal pelagic finfish" includes: Northern anchovy (Engraulis mordax), Pacific herring (Clupea pallasi), jack mackerel (Trachurus symmetricus), Pacific mackerel (Scomber japonicus), and Pacific sardine (Sardinops sagax).

algae<sup>3</sup> (intertidal hand harvest)

- 2 The grouping "turf-forming and foliose algae" includes the following harvested groups: Porphyra spp. (Nori, Laver), Ulva spp. (Sea Lettuce), Chondrocanthus/Gigartina exasperata (Turkish Towel), and Mastocarpus spp. (Mendocino Grapestone).
- 3 The grouping "canopy-forming algae" includes the following harvested groups: Alaria spp. (Wakame), Lessonioposis littoralis (Ocean Ribbons), Laminaria spp. (Kombu), Saccharina/Hedophyllum sessile ('Sweet' Kombu), Egregia menzeisii (Feather Boa), and Fucus spp. (Bladder wrack or Rockweed).







Levels of Protection – North Coast				
Level of Protection	MPA Types	Activities Associated with this Protection Level		
Very high	SMR	No take		
High	SMCA SMP	Salmon (H&L or troll in waters >50m depth); coastal pelagic finfish <sup>1</sup> (H&L, round-haul net, dip net);		
Mod-high	SMCA SMP	Dungeness crab (trap, hoop-net, diving); salmon (troll in water <50m depth); surf and night smelts (dip net, a-frame net, cast net)		
Moderate	SMCA SMP	smelts (H&L, dip net); redtail and other surfperch (H&L from shore); California halibut (H&L); coonstripe shrimp and spot prawn (trap); clams (intertidal hand harvest); turf-forming and foliose algae <sup>2</sup> (intertidal hand harvest); salmon (H&L in waters <50m depth)		
Mod-low	SMCA SMP	Pacific halibut (H&L); lingcod, cabezon, and rockfishes, and greenlings (H&L, spearfishing, trap); red abalone (free-diving); urchin (diving), surfperch (H&L)		
Low	SMCA SMP	Rock scallop (diving); mussels (hand harvest); bull kelp (hand harvest); gh shrimp (hand harvest); sea palm (intertidal hand harvest); canopy-forming algae <sup>3</sup> (intertidal hand harvest)		
		finfish" includes: Northern anchovy (Engraulis mordax), Pacific herring (Clupea pallasi), jac ricus), Pacific mackerel (Scomber japonicus), and Pacific sardine (Sardinops sagax).		
		d foliose algae" includes the following harvested groups: <i>Porphyra</i> spp. (Nori, Laver), <i>Ulva</i> s is/Gigartina exasperata (Turkish Towel), and <i>Mastocarpu</i> s spp. (Mendocino Grapestone).		

The grouping "canopy-forming algae" includes the following harvested groups: Alaria spp. (Wakame), Lessonioposis littoralis (Ocean Ribbons), Laminaria spp. (Kombu), Saccharina/Hedophyllum sessile ('Sweet' Kombu), Egregia menzeisii (Feather Boa), and Fucus spp. (Bladder wrack or Rockweed).



**Summary** 

Approval sought for:

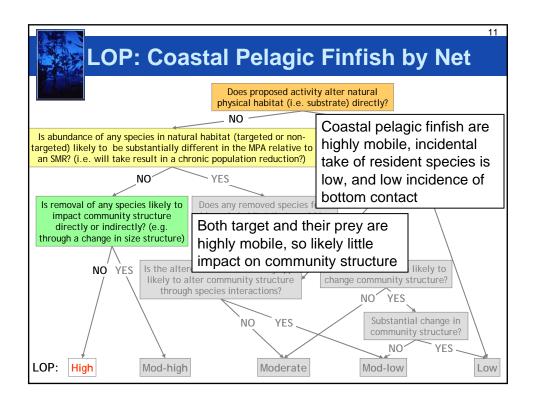
- Changes to conceptual model for LOP designations
- Articulation of the assumptions used in assigning LOPs
- New LOPs assigned by the SAT LOP Work Group
- LOP evaluation methods to be inserted into Methods Used to Evaluate MPA Proposals in the North Coast Study Region as Chapter 3



**Additional Background Information** 

Information presented at the January science advisory team meeting regarding LOP designations that are pending approval today

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### **Salmon Levels of Protection**

Salmon themselves are highly mobile, so LOPs assigned are largely dependent on other species taken in conjunction

Associated catch of resident species varies as a function of two things:

- Fishing mode: troll (under power) versus non-troll
   H&L (drift or mooch) methods
- Depth fished: in shallower water gear is likely to be closer to the bottom

Limited catch information that allows us to differentiate these two factors and none of it allows certainty that <u>only salmon</u> were targeted



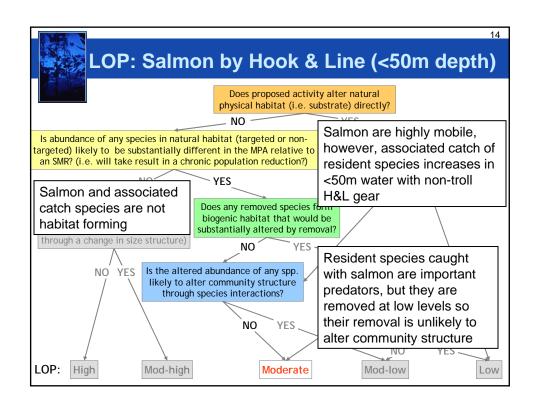
## **Salmon Levels of Protection**

## Catch information examined by the work group includes:

- Commercial passenger fishing vessel (CPFV) logbooks
- California Recreational Fisheries Survey (CRFS) observers

## Some general trends emerge from available catch information for salmon fishing:

- Associated catch of resident species is low in deep waters (greater than 50 meter depth) and higher in shallower waters
- Associated catch of resident species is low using troll methods and higher using non-troll methods



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### **Urchin Level of Protection**

# The SAT LOP Work Group re-examined the LOP for urchin take based on questions about:

- Impact of urchins on kelp forest communities through grazing on kelp
- Perceived absence of natural urchin predators that occur in other study regions (sea otters, lobsters, sheephead)



### **Urchin Level of Protection**

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## Information that was considered in the course of work group discussions:

- Urchins do not appear to cause urchin barrens in the absence of commercial urchin take in north coast study region
- Natural urchin predators in the study region include sunflower stars (*Pycnopodia helianthodes*) and wolf eels (*Anarrhichthys ocellatus*); *Pycnopodia*, in particular, shown to be effective urchin predator
- Urchins themselves form habitat (spine canopy) that is important for variety of small invertebrates and may be especially important in wave-exposed north coast study region habitats

